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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/580,041

05/19/2006

Toshinori Moriga

MORIGA2

7553

1444 7590 11/16/2009  
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EXAMINER

LEONARD, MICHAEL L

ART UNIT

PAPER NUMBER

1796

MAIL DATE

DELIVERY MODE

11/16/2009

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/580,041	<b>Applicant(s)</b> MORIGA ET AL.	
	<b>Examiner</b> MICHAEL LEONARD	<b>Art Unit</b> 1796	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 12 May 2008.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-21 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)            | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. _____                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>05/12/2008; 05/19/2006</u> .                                  | 6) <input type="checkbox"/> Other: _____                          |

## DETAILED ACTION

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-21 are rejected under 35 U.S.C. 103 (a) as being unpatentable over U.S. Patent Pub. No. 2002/0104043 to Moriga et al. in view of U.S. Patent Pub. No. 2004/0122145 to Klosowski et al. and U.S. Patent Pub. No. 2003/0232956 to Brinkman.

As to claims 1, 8 Moriga discloses a sealing gasket for closure made of a polyurethane elastomer obtained by reacting a polyisocyanate component having an isocyanate group content of 5 to 38% by weight and an average of 2 to 3 functional groups, obtained by modifying an aliphatic isocyanate and/or an alicyclic isocyanate and a polyol component having a hydroxyl value of 20 to 350 mgKOH/g and an average of 2 to 3 functional groups. Moriga further discloses wherein the sealant is used for a metal closure (Abstract).

Moriga fails to disclose a glycerin fatty acid ester having hydroxyl groups as another reactant.

However, Klosowski discloses adhesion promoters for sealants containing esters, particularly dimerate and trimerate esters, which improve the adhesion of sealants to substrates such as metal when the promoters are added to the adhesive. Klosowski discloses fatty acid esters derived from C3-C24 alcohols and C6-C24 fatty

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acid compounds (0006-0007) that aid in the adhesion of know sealants such as urethane sealants (0029-0036) to substrates such as glass and metals. Furthermore, Brinkman discloses adhesive systems useful for metal substrates that are made from polyisocyanates and polyols, wherein one of the polyols is fatty acid ester such as glycerol stearate, glycerol hydroxystearate, etc. (0026) that are used in place of the petroleum based polyols, in an amount of from 0.5% to 20% based on the weight of total polyols (0035) to provide such compositions that more environmentally friendly to provide adhesives with useful properties (0004).

It would have been obvious to a person of ordinary skill in the art to incorporate the adhesion promoting fatty acid esters of Klosowski and the more environmentally friendly fatty acid esters of Brinkman into the composition of Moriga to promote better adhesion and to provide a safer and a more "green" composition that could be used in the production of metal closures for food containers as disclosed by Moriga (Abstract). A person of ordinary skill in the art would see the benefits of more "green" polyol as well as a better adhesive for metal closures.

As to claims 2-3, 9-10, and 16-17, Moriga discloses isocyanates with uretidone and isocyanurate groups as well as urethane prepolymers that are suitable as the isocyanate component (0031-0033).

As to claim 4-5, 11-12, and 18-19, Moriga discloses a polyol component having a hydroxyl value of 20 to 350 mgKOH/g and an average of 2 to 3 functional groups (Abstract) that is a mixture of a high-molecular weight polyol and a low-molecular weight polyol (0041).

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As to claims 6-7, 13-14, and 20-21, Moriga discloses wherein the sealing gasket has a hardness of 10 to 70, a tensile strength of 1 to 40 MPa and a compression set of 0.1 to 60% (0054) and a permanganate consumption of preferably 30 ppm or less (0058).

As to claim 15, Moriga discloses in producing a closure the polyurethane elastomer reaction is allowed to take place at 150 to 240°C for 20 to 200 seconds (0059).

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to MICHAEL LEONARD whose telephone number is (571)270-7450. The examiner can normally be reached on Mon-Fri 7:00-4:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Randy Gulakowski can be reached on 571-272-1302. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/MICHAEL LEONARD/  
Examiner, Art Unit 1796

/Randy Gulakowski/  
Supervisory Patent Examiner, Art Unit 1796